

**Case 3405**

***Trigonostomum* Schmidt, 1852 (Platyhelminthes, TRIGONOSTOMIDAE) and *Trigonostomus* Brenske, 1893 (Coleoptera, SCARABAEIDAE), proposed conservation of the generic names and proposed emendation of the current spelling of TRIGONOSTOMINA Ohaus, 1912 (Coleoptera, SCARABAEIDAE) to remove homonymy with TRIGONOSTOMIDAE Graff, 1905 (Platyhelminthes)**

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**Abstract.** The purpose of this application, under Articles 23.4 and 23.9.3 of the Code, is to conserve the widespread usage of the generic name *Trigonostomum* Schmidt, 1852 for a group of marine flatworms (family TRIGONOSTOMIDAE) and, under Articles 55 and 29 of the Code, to remove the homonymy between the chafer subtribe name TRIGONOSTOMINA Ohaus, 1912 (type genus *Trigonostomum* Burmeister, 1844; family SCARABAEIDAE) and the flatworm family name TRIGONOSTOMIDAE Graff, 1905 (type genus *Trigonostomum* Schmidt, 1852). The flatworm genus-group name *Trigonostomum* Schmidt, 1852 is threatened by the chafer name *Trigonostomum* Burmeister, 1844. It is proposed that *Trigonostomum* Burmeister, 1844 be suppressed, the incorrect subsequent spelling *Trigonostomus* Brenske, 1893 be deemed available as a substitute name for *Trigonostomum* Burmeister, 1844, and that the entire genus name should be adopted as the stem, so that the correct spelling of the chafer subtribe name will become TRIGONOSTOMUSINA Ohaus, 1912 to remove homonymy with Graff's flatworm family name. *Trigonostomum setigerum* Schmidt, 1852 is herein designated as the type species of *Hyporhynchus* Graff, 1882 to make this genus-group name an objective junior synonym of *Trigonostomum* Schmidt, 1852 and HYPORHYNCHINAE Graff, 1882 an objective senior synonym of TRIGONOSTOMIDAE Graff, 1905. According to Article 23.9.2 of the Code it is herein declared that TRIGONOSTOMIDAE is the valid name and has precedence over HYPORHYNCHINAE.

**Keywords.** Nomenclature; taxonomy; Platyhelminthes; Coleoptera; Rhabdocoela; TRIGONOSTOMIDAE; HYPORHYNCHINAE; SCARABAEIDAE; TRIGONOSTOMUSINA; *Trigonostomum*; *Trigonostomus*; *Trigonostomum setigerum*; *Trigonostomus mucoreus*; marine free-living flatworms; scarab beetles.

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1. Burmeister (1844, p. 466) described *Trigonostomum* for a single species of ruteline beetle (Coleoptera, SCARABAEIDAE) from Madagascar, *T. mucoreum* Burmeister, 1844 (p. 467), which is the type species by monotypy. The genus name has been in continuous but scarce use since its description, after 1961 only in catalogues and a checklist (Arrow, 1917, p. 289; Ohaus, 1912b, p. 281, 1935, p. 129, 1941, p. 204; Vinson, 1958, p. 107; Machatschke, 1961, p. 926, 1965, p. 107, 1972, p. 340; Gomy, 2000, p. 61 (in the subsequent incorrect spelling *Trigonostomum*); Smith, 2006, p. 174). We found no more references from the last 100 years. The genus *Trigonostomum* contains eight species from Madagascar, Africa, Sri Lanka, and Indonesia, and it is the type genus of the subtribe TRIGONOSTOMINA Ohaus, 1912a (p. 151).

2. Schmidt (1852, p. 500) described *Trigonostomum* for a single species of flatworm (Platyhelminthes) from the Adriatic Sea, *T. setigerum* Schmidt, 1852 (p. 500), which is the type species by monotypy. *Trigonostomum* Schmidt has been in continuous use since its description, is the type genus of TRIGONOSTOMIDAE Graff, 1905 (p. 109) and frequently appears in current literature (Karling, 1986, pp. 201, 209–210; Armonies & Hellwig-Armonies, 1987, p. 104; Joffe & Kotikova, 1989, pp. 70–72, 74–77, 79–82; Ax & Armonies, 1990, p. 100; Birstein, 1991, p. 108; Watson, 2001, pp. 226–227; Artois et al., 2000, pp. 104–105; Willems et al., 2004, 2005, pp. 96–97, 2006, pp. 3, 5, 8, 11; Faubel, 2005; Faubel & Warwick, 2005, p. 29; a list of 12 further references from the last 50 years and 29 from 1852–1954 is held by the Commission Secretariat). The genus is distributed world-wide and currently contains 17 species (see Willems et al., 2004, for a revision of the genus). Schmidt's genus name is by far more widely and frequently used than *Trigonostomum* Burmeister. Changing this name would cause much more confusion than replacing Burmeister's rarely used name. It is proposed that the name *Trigonostomum* Burmeister, 1844 be suppressed.

3. Before Graff introduced TRIGONOSTOMIDAE in 1905, he had synonymized *Trigonostomum* Schmidt, 1852 with his new genus *Hyporhynchus* Graff, 1882 in his *Monographie der Turbellarien* (1882, p. 336), justifying this act by a major change of the genus concept. This act is nomenclaturally invalid, but Graff introduced a new family-group name, 'Subfamilie Hyporhynchina' based on *Hyporhynchus*. Since *Hyporhynchus* Graff is a junior subjective synonym of *Trigonostomum* Schmidt, 1852 (Willems et al., 2004), TRIGONOSTOMIDAE Graff, 1905 and HYPORHYNCHINAE Graff, 1882 are synonyms, too, with the latter being senior. However, to our knowledge HYPORHYNCHINAE has never been used after 1899 whereas TRIGONOSTOMIDAE has been widely used since its introduction in 1905. According to Article 23.9.2 of the Code we declare that TRIGONOSTOMIDAE Graff, 1905 is the valid name and has precedence over HYPORHYNCHINAE Graff, 1882, which is supported by the following 25 references by 36 authors according to Article 23.9.1.2 of the Code: Ax (1956, 1959, 1971), Riedl (1959); Beauchamp (1961), Luther (1962), Den Hartog (1964), Ax & Heller (1970),

Karling et al. (1972), Ehlers & Ehlers (1980), Odening (1984), Karling (1986), Joffé & Kotikova (1989), Birstein (1991), Jondelius & Thollesson (1993), De Clerck & Schockaert (1995), Watson (1998, 2001), Littlewood et al., 1999a, b, Artois et al. (2000), Zamparo et al. (2001); Willems et al. (2004, 2005); Faubel & Warwick (2005) (12 additional references are held by the Commission Secretariat). To our knowledge the type species of *Hyporhynchus* Graff, 1905 has never been designated. To avoid future instability, we herewith designate *Trigonostomum setigerum* Schmidt, 1852 as the type species of *Hyporhynchus* Graff, 1882, being the same type species as for *Trigonostomum* Schmidt, 1852 thus making *Hyporhynchus* an objective synonym of *Trigonostomum* and HYPORHYNCHINAE an objective synonym of TRIGONOSTOMIDAE.

4. *Trigonostomum* Burmeister, 1844 has no synonyms (Machatschke, 1972). The similar genus name *Trigonostoma* Dejean, 1833 (p. 157), although in the same tribe as *Trigonostomum* Burmeister, was introduced for a different set of species. *Trigonostoma* Dejean, 1833 is a junior objective synonym of *Adoroleptus* Brenske, 1893 (see Machatschke, 1972) and is preoccupied by *Trigonostoma* de Blainville, 1825 (p. 653), which is widely used for a genus of marine snails (Petit & Harasewych, 1990, p. 7; Millard, 2001, p. 528). Thus *Trigonostoma* Dejean, 1833 cannot be used as a new name for *Trigonostomum* Burmeister, 1844. Brenske (1893, p. 1) used the spelling '*Trigonostomus* Burm.' for *Trigonostomum* Burmeister, 1844 which is an incorrect subsequent spelling, hence, it is not an available name according to Article 33.3 of the Code and probably has never been used since. It is proposed that it is deemed available to enable its use for *Trigonostomum* Burmeister, 1844 since it is similar to *Trigonostomum*, fulfils the one-letter difference criterion (Article 56.2 of the Code) and has no homonyms. It would avoid creating a nomen novum and would be the least confusing decision. Applying for a change of the original spelling of *Trigonostomum* Burmeister to *Trigonostomus* would be confusing since this spelling is not associated with the original description. Brenske did not include any species when using *Trigonostomus*. We propose to designate *Trigonostomum mucoreum* Burmeister, 1844 as the type species for *Trigonostomus* Brenske, 1893 if the genus name is made available.

5. Since TRIGONOSTOMINA Ohaus, 1912 is a junior homonym of TRIGONOSTOMIDAE Graff, 1905, we propose to emend it to TRIGONOSTOMUSINA by ruling the stem of *Trigonostomus* Brenske to be TRIGONOSTOMUS-. We propose *Trigonostomus* Brenske to be the type genus of TRIGONOSTOMUSINA Ohaus, 1912 since we apply for suppression of *Trigonostomum* Burmeister, 1844, the original type genus of TRIGONOSTOMINA Ohaus, 1912.

6. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power:
  - (a) to suppress the generic name *Trigonostomum* Burmeister, 1844 and all uses of the name for the purposes of both the Principle of Priority and the Principle of Homonymy;
  - (b) to rule that the generic name *Trigonostomus* is deemed available from Brenske, 1893 and is not invalid by reason of being an incorrect subsequent spelling of *Trigonostomum* Burmeister, 1844;
  - (c) to designate *Trigonostomum mucoreum* Burmeister, 1844 as the type species of *Trigonostomus* Brenske, 1893;

- (d) to rule that the stem of the generic name *Trigonostomus* Brenske, 1893, as deemed available in (1b) above, is TRIGONOSTOMUS-;
- (2) to place on the Official List of Generic Names in Zoology the following names:
- (a) *Trigonostomum* Schmidt, 1852 (gender: neuter), type species by monotypy *Trigonostomum setigerum* Schmidt, 1852;
- (b) *Trigonostomus* Brenske, 1893 (gender: masculine), type species *Trigonostomum mucoreum* Burmeister, 1844, as designated in (1c) above;
- (3) to place on the Official List of Specific Names in Zoology the following names:
- (a) *setigerum* Schmidt, 1852, as published in the binomen *Trigonostomum setigerum* (specific name of the type species of *Trigonostomum* Schmidt, 1852 and of *Hyporhynchus* Graff, 1882);
- (b) *mucoreum* Burmeister, 1844, as published in the binomen *Trigonostomum mucoreum* (specific name of the type species of *Trigonostomus* Brenske, 1893);
- (4) to place on the Official List of Family-Group Names in Zoology the following names:
- (a) TRIGONOSTOMIDAE Graff, 1905, type genus *Trigonostomum* Schmidt, 1852 (Platyhelminthes);
- (b) TRIGONOSTOMUSINA Ohaus, 1912, type genus *Trigonostomus* Brenske, 1893 (spelling emended by ruling in (1d) above) (Coleoptera);
- (5) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Trigonostomum* Burmeister, 1844, as suppressed in (1a) above;
- (6) to place on the Official Index of Rejected and Invalid Family-Group Names in Zoology the name TRIGONOSTOMINA Ohaus, 1912 (an incorrect original spelling of TRIGONOSTOMUSINA, as ruled in (1d) above).

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### References

- Armonies, W. & Hellwig-Armonies, M. 1987. Synoptic patterns of meiofaunal and macrofaunal abundances and specific composition in littoral sediments. *Helgoländer Meeresuntersuchungen*, **41**: 82–111.
- Arrow, G.J. 1917. *The Fauna of British India, including Ceylon and Burma. Coleoptera, Lamellicornia Part II. (Rutelinae, Desmonycinae, and Euchirinae)*. xiii, 387 pp., 5 pls. Taylor & Francis, London.
- Artois, T., Vermin, W. & Schockaert, E. 2000. Rhabdocoela (Platyhelminthes) from the Weddell Sea (Antarctica) with the description of eight new species. *Belgian Journal of Zoology*, **130**: 103–110.
- Ax, P. 1956. Les Turbellariés des étangs côtiers du littoral Méditerranéen de la France méridionale. *Vie et Milieu*, **5**(Suppl.): 1–215.
- Ax, P. 1959. Zur Systematik, Ökologie und Tiergeographie der Turbellarienfauna in den ponto-kaspischen Brackwassermereen. *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie und Geographie der Tiere*, **87**: 43–184.
- Ax, P. 1971. Zur Systematik und Phylogenie der Trigonostominae (Turbellaria. Neorhabdocoela). *Mikrofauna des Meeresbodens*, **4**: 141–220.

- Ax, P. & Armonies, W.** 1990. Brackish water Plathelminthes from Alaska as evidence for the existence of a boreal brackish water community with circumpolar distribution. *Microfauna Marina*, **6**: 7–109.
- Ax, P. & Heller, R.** 1970. Neue Neorhabdocoela (Turbellaria) von der Sandstrand der Nordsee-Insel Sylt. *Mikrofauna des Meeresbodens*, **2**: 55–98.
- Beauchamp, P. de.** 1961. Classe des Turbellariés. Turbellaria (Ehrenberg, 1831). Pp. 132–174 in Grassé, P.-P. (Ed.), *Traité de Zoologie. Anatomie, Systématique, Biologie. Tome IV Plathelminthes, Mésozoaires, Acanthocéphales, Némertiens (Premier fascicule)*. Masson et Cie, Paris.
- Birstein, V.J.** 1991. On the karyotypes of the Neorhabdocoela species and karyological evolution of Turbellaria. *Genetica*, **83**: 107–120.
- Blainville, H.M.D. de.** 1825. *Manuel de Malacologie et de Conchyliologie*. viii, 664 pp. Levrault, Paris & Strasbourg.
- Brenske, E.** 1893. Zur Kenntnis der Adoretiden Madagascars. *Societas Entomologica*, **8**: 1–2.
- Burmeister, H.** 1844. *Handbuch der Entomologie*, vol. 4(1). xii, 588 pp. Enslin, Berlin.
- De Clerck, G.G. & Schockaert E.R.** 1995. Two peculiar new genera of Typhloplanoida from the Western Indian Ocean. *Hydrobiologia*, **305**: 3–9.
- Dejean, [P.F.M.A.]** 1833. *Catalogue des Coléoptères de la Collection de M. Le Comte Dejean. 2me Livraison. Fascicle 2*. Pages 97–176. Méquignon-Marvis, Paris.
- Den Hartog, C.** 1964. A preliminary revision of the *Proxenetes* group (Trigonostomidae, Turbellaria) I, II, III. *Proceedings van de Koninklijke Nederlandse Akademie van Wetenschappen Series C*, **67**: 371–407.
- Ehlers, U. & Ehlers, B.** 1980. Zur Systematik und geographischen Verbreitung interstitieller Turbellarien der Kanarischen Inseln. *Mikrofauna des Meeresbodens*, **80**: 573–593.
- Faubel, A.** 2005. On the synonymy of *Scillyvortex phytophilus* Faubel and Warwick, 2005 (Plathelminthes). *Journal of Natural History*, **39**: 3481.
- Faubel, A. & Warwick, R.M.** 2005. The marine flora and fauna of the Isles of Scilly: Free-living Plathelminthes ('Turbellaria'). *Journal of Natural History*, **39**: 1–45.
- Gomy, Y.** 2000. *Nouvelle liste chorologique des coléoptères de l'archipel des Mascareignes*. 140 pp. Société réunionnaise des Amis du Muséum, Saint-Denis.
- Graff, L. von.** 1882. *Monographie der Turbellarien. I. Rhabdocoelida*. xii, 442 pp. Engelmann, Leipzig.
- Graff, L. von.** 1905. Marine Turbellarien Orotavas und der Küsten Europas. *Zeitschrift für Wissenschaftliche Zoologie*, **83**: 68–148, pls. 2–6.
- Joffe, B.I. & Kotikova, E.A.** 1989. Catecholamines in the nervous system of turbellarians from the family Trigonostomidae (Neorhabdocoela, Typhloplanoida). *Proceedings of the Zoological Institute, Leningrad*, **195**: 70–83.
- Jondelius, U. & Thollesson, M.** 1993. Phylogeny of the Rhabdocoela (Platyhelminthes): a working hypothesis. *Canadian Journal of Zoology*, **71**: 298–308.
- Karling, T.G.** 1986. Free-living marine Rhabdocoela (Platyhelminthes) from the N. American Pacific coast. With remarks on species from other areas. *Zoologica Scripta*, **15**: 201–219.
- Karling, T.G., Mack-Fira, V. & Dörjes J.** 1972. First report on marine microturbellarians from Hawaii. *Zoologica Scripta*, **1**: 251–269.
- Littlewood, D.T.J., Rohde, K. & Clough, K.A.** 1999a. The interrelationships of all major groups of Platyhelminthes: phylogenetic evidence from morphology and molecules. *Biological Journal of the Linnean Society*, **66**: 75–114.
- Littlewood, D.T.J., Rohde K., Bray R.A. & Herniou E.A.** 1999b. Phylogeny of the Platyhelminthes and the evolution of parasitism. *Biological Journal of the Linnean Society*, **68**: 257–287.
- Luther, A.** 1962. Die Turbellarien Ostfennoskandiens. III. Neorhabdocoela 1. Dalyellioida, Typhloplanoida: Byrsophlebidae und Trigonostomidae. *Fauna Fennica*, **12**: 1–71.
- Machatschke, J.W.** 1961. Beiträge zur Kenntnis der Adoretini der äthiopischen Region (Coleoptera: Lamellicornia, Melolonthidae, Rutelinae) II. Teil. *Beiträge zur Entomologie*, **11**: 922–929.
- Machatschke, J.W.** 1965. Coleoptera Lamellicornia Fam. Scarabaeidae Subfam. Rutelinae Dritter Teil. *Genera Insectorum*, **199c**: 1–145, 2 pls.

- Machatschke, J.W.** 1972. Scarabaeoidea: Melolonthidae Rutelinae. *Catalogus Coleopterorum Supplementa*, **66**: 1–361.
- Millard, V.** 2001. *Classification of Mollusca: A Classification of World Wide Mollusca*, vol. 2. Pages 223–914. Author, Rhine Road. South Africa.
- Odening, K.** 1984. 7. Stamm Platyhelminthes. Plattwürmer. Pp. 341–442 in Gruner, H.-E. (Ed.), *Lehrbuch der Speziellen Zoologie. Band 1: Wirbellose Tiere. 2. Teil: Cnidaria, Ctenophora, Mesozoa, Platyhelminthes, Nemertini, Entoprocta, Nematelminthes, Priapulida*. 4 ed. Fischer, Jena.
- Ohaus, F.** 1912a. Revision der Adoretini. (Col. lamell. Rutelin.). *Deutsche Entomologische Zeitschrift*, **1912**: 141–156.
- Ohaus, F.** 1912b. Revision der Adoretini. (Col. lamell. Rutelin.) (Fortsetzung.). *Deutsche Entomologische Zeitschrift*, **1912**: 267–282.
- Ohaus, F.** 1935. XXVIII. Beitrag zur Kenntnis der Rutelinae (Col. Scarab.). *Deutsche Entomologische Zeitschrift*, **1935**: 121–130.
- Ohaus, F.** 1941. 31. Beitrag zur Kenntnis der Rutelinen (Col. Scarab.). *Stettiner Entomologische Zeitung*, **102**: 194–205.
- Petit, R.E. & Harasewych, M.G.** 1990. Catalogue of the superfamily Cancellarioidea Forbes and Hanley, 1851 (Gastropoda: Prosobranchia). *Nautilus Supplement*, **1**: 1–69.
- Riedl, R.** 1959. Turbellarien aus submarinen Höhlen. 3. Seriata und Neorhabdoceola. Ergebnisse der Österreichischen Tyrrhenia Expedition 1952, Teil IX. *Publicazioni di Stazione Zoologica di Napoli*, **30**: 305–332.
- Schmidt, O.** 1852. Neue Rhabdoceolen aus dem nordischen und dem adriatischen Meere. *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften zu Wien, Mathematisch-Naturwissenschaftliche Classe*, **9**: 490–505, pls. 44–47.
- Smith, A.B.T.** 2006. A review of the family-group names for the superfamily Scarabaeoidea (Coleoptera) with corrections to nomenclature and classification. *Coleopterists Society Monograph, Supplement to The Coleopterists Bulletin*, **60**: 144–204.
- Vinson, J.** 1958. Catalogue of the Coleoptera of Mauritius and Rodriguez Part II. *Mauritius Institute Bulletin*, **4**: 75–130.
- Watson, N.A.** 1998. Characteristics of protonephridial terminal organs and the eyes of four species of Trigonostominae (Platyhelminthes: Rhabdoceola). *Australian Journal of Zoology*, **46**: 251–265.
- Watson, N.A.** 2001. Insights from comparative spermatology in the ‘turbellarian’ Rhabdoceola. Pp. 217–230 in Littlewood, D.T.J. & Bray, R.A. (Eds.), *Interrelationships of the Platyhelminthes*. Taylor and Francis, London & New York.
- Willems, W.R., Artois, T.J., Vermin, W.A. & Schockaert, E.R.** 2004. Revision of *Trigonostomum* Schmidt, 1852 (Platyhelminthes, Typhloplanoida, Trigonostomidae) with description of seven new species. *Zoological Journal of the Linnean Society*, **141**: 271–296.
- Willems, W.R., Artois, T.J., Backeljau, T. & Schockaert, E.R.** 2005. Typhloplanoida (Platyhelminthes, Rhabdoceola) from New Caledonia and eastern Australia, with the description of six new taxa. *New Zealand Journal of Zoology*, **32**: 79–98.
- Willems, W.R., Wallberg, A., Jondelius, U., Littlewood, D.T.J., Backeljau, T., Schockaert, E.R. & Artois, T.J.** 2006. Filling a gap in the phylogeny of flatworms: relationships within the Rhabdoceola (Platyhelminthes), inferred from 18S ribosomal DNA sequences. *Zoologica Scripta*, **35**: 1–17.
- Zamparo, D., Brooks, D.R., Hoberg, E.P. & McLennan, D.A.** 2001. Phylogenetic analysis of the Rhabdoceola (Platyhelminthes) with emphasis on the Neodermata and relatives. *Zoologica Scripta*, **30**: 59–77.

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